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Grant and Cooperative Agreement Handbook Instruction

This NASA Grant and Cooperative Agreement Handbook Instruction is issued by the Assistant Administrator for Procurement, NASA Headquarters, under authority delegated by the Administrator pursuant to the National Aeronautics and Space Act of 1958 (Public Law 35-568, 72 Stat. 426).

NASA Grant and Cooperative Agreement Handbook material published in this Instruction is effective upon receipt.

PATENTS RIGHTS
(Small Business Firms and Nonprofit Organizations)

The following changes are made to the NASA Grant and Cooperative Agreement Handbook to implement OMB Circular A-124, dated February 10, 1982, issued pursuant to the authority of 35 U.S.C. 200 et seq. (P.L. 96-517, the Patent and Trademark Amendments of 1980).

(a) Paragraph 209 is modified to authorize grantees to use the current Exhibit G for awards made on or after July 1, 1981 and to specify that copies of reports required by the paragraph are sent to the Installation Patent Counsel.

(b) A new paragraph 401(h) has been added which specifies means by which the grantee may minimize inadvertent public release of "subject invention information" prior to filing a patent application.

(c) Paragraph 409 now requires that copies of patent-related business, status and final reports be sent to Installation Patent Counsel by the grantee.

(d) Paragraph 416 is modified to include reference to patent matters.

(e) The Grant Provisions, Form 1463A, Exhibit D is modified to accommodate the above changes, plus changes in the following section on "Administration."

NAS 1.18:

The attached Form 1463A should be implemented immediately through local reproduction, pending availability of the bulk supply.

(f) Exhibit D is replaced with the current (August 1982) version.

ADMINISTRATION

The following changes are made to reflect the June 23, 1981 rescission by OMB of Circular FMC 73-7, "Administration of College and University Regular Grants."

(a) Paragraph 415 is cancelled; conforming changes are made in paragraph 501.

(b) Necessary material on change-in-principal investigator and use of small business is retained by modifying paragraphs 403 and 414 respectively.

UNIVERSITY AFFAIRS OFFICE

The Headquarters University Affairs Office, Code LCU-16, was abolished on June 15, 1982. The paragraphs in the Handbook requiring action by that Office or listing it as the recipient of various documents are modified.

(a) Paragraph 204(b) now emphasizes adherence to Installation unsolicited proposal processing guidelines and reflects the new role of the Office of Space Science and Applications as the Headquarters proposal control unit.

(b) Paragraphs 204(c) and 602 specify submission of NASA Form 1356, "CASE Report" to the Headquarters Procurement Management Division, Code HM-1.

(c) Paragraph 306.1(b) assigns responsibility for numbering new Training Grants and Facility Grants to the Office of External Relations.

(d) Paragraph 505(c)(3) places responsibility for matters involving recapture of title to grantee acquired equipment in the Supply and Equipment Management Branch.

(e) Pending revision of NMI 8330.1 and NMI 8340.1 and conforming charges to the Handbook, matters involving unsolicited proposal policies (paragraph 202.2(a)) and grant termination (paragraph 513(e)) which cannot be handled locally shall be referred to the Procurement Policy Division, Code HP-1.

READEX MICRO best copy available

EXCESS GOVERNMENT PROPERTY (GFE)

Paragraph 505(b)(1) states NASA policy against furnishing acquired excess property to Grantees.

PEN AND INK CHANGES

Location	Current	Change
G-2:5(ii)	"Merit in herein"	"merit inherent in"
Passim	Director of Procurement	Assistant Administrator for Procurement

FILING INSTRUCTIONS

Remove the following pages from the NASA GHB	Insert the following pages attached to this Instruction
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G-6:1 - G-6:2	G-6:1 - G-6:2
Exhibit D	Exhibit D
Exhibit G	Exhibit G

CHANGES

The following Grant and Cooperative Agreement Handbook Instructions (Changes) have been issued:

Instruction No. 1	July 1, 1981
Instruction No. 2	September 30, 1982

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situations where the project would not be possible without extensive NASA-university collaboration. Thus, cooperative agreements would be appropriate, for instance, where a university investigator works for a substantial amount of time at a NASA center (or a NASA investigator works at the university), or when the NASA-university scientific collaboration is such that a jointly authored report is appropriate. Under no circumstances are cooperative agreements to be used solely to obtain the stricter control requirements typical of a contract. Subject to the statutory requirements set forth in paragraph 203.1, the characterstics generally inherent in grants, cooperative agreements and contracts are as follows:

(a) Characteristics of a grant instrument:

(i) The principal purpose is to accomplish a NASA objective through stimulating or supporting the acquisition of knowledge or understanding of the subject or phenomena under study;

(ii) The exact course of the work and its outcome cannot be defined precisely and specific points in time for achievement of significant results cannot be realistically specified;

(iii) NASA desires, or the nature of the proposed investigation is such, that the grantee will bear prime responsibility for the conduct of the research, and exercises judgment and original thought toward attaining the scientific goals within broad parameters of the research areas proposed and the related resources provided;

(iv) The research problem is such that long term support (*i.e.,* in excess of 1 year) is required for the study to mature to maximum scientific effectiveness (however, this does not preclude shorter-term grants in special cases);

(v) Meaningful technical reports (as distinguished from the Semiannual Status Reports) can be prepared only as new findings are made, rather than on a predetermined time schedule; and

(vi) Simplicity and economy in execution and administration are mutually desirable.

(b) Characteristics inherent in a cooperative agreement include the characteristics of a grant plus the following:

(i) Substantial NASA involvement in and contribution to the technical aspects of the effort are necessary for its accomplishment;

(ii) The project, conducted as proposed, would not be possible without extensive NASA-university technical collaboration; and

(iii) The nature of the collaboration can be clearly defined and specified in advance.

(c) Characteristics inherent in a contract are as follows:

(i) The principal purpose is the purchase for the direct use or benefit of NASA's well-defined, specific effort clearly required for the advancement of a programmed NASA mission or project;

(ii) The work to be conducted is directed closely toward the solution of a specific problem;

(iii) A specific service, piece of hardware, or improved performance of a specific device is the end product;

(iv) NASA considers it necessary, and it is reasonable in consideration of the nature of the project, to exercise control over the objectives, direction, specifications, costs or methods of the research, and schedule control is desirable and feasible;

(v) The work to be conducted is classified (however, access to security classified information may be given grantees where a demonstrated need exists);

(vi) The end result is clearly defined and/or parameters and specifications are prepared in advance of the work; and

(vii) A significant portion of the total effort will be performed by an organization other than the one submitting the proposal, and such portion will involve the development, fabrication or acquisition of instruments or hardware.

(d) Other instruments authorized by statute shall be used only after it has been determined, with the advise of General Counsel, that the action cannot be accomplished under a grant, cooperative agreement, or contract, as described above. Use of purchase orders (NASA Form 1379) for research is subject to the limitations of NPR 3.603(a) and 3.608-2(b)(1).

204 Processing the Instruments.

(a) If a grant or cooperative agreement is selected as the research support instrument, negotiation will be by the funding installation, except for grants to foreign institutions subject to NPD 1362.1.

(b) If the award is based on an unsolicited proposal, grants officers will ensure that the appropriate proposal control unit (at either the Installation or Headquarters or both) is informed of the acceptance action. Local installation procedural guidance or guidance from the Headquarters proposal control unit (the Office of Space Sciences and Applications, Code E) should be followed, as applicable.

(c) Grants officers at field installations and the Headquarters Contracts and Grants Division will furnish to the Procurement Management Division completed NASA Forms 1356, "C.A.S.E. Report on College and University Projects," after all awards, regardless of any exceptions arising from guidance applicable to actions in subparagraphs (a) and (b) (see paragraph 602).

205 Civil Rights Act of 1964-Nondiscrimination in Certain Federally Funded Programs.

(a) Section 602 of the Civil Rights Act of 1964 (Public Law 88-352; 42 U.S.C. 200d-1), provides that no person in the United States shall, on the ground of race, color or national origin, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity receiving Federal financial assistance, and requires that each Government agency which is empowered to extend such financial assistance shall issue rules or regulations effectuating Title VI (Sections 601-605)

of the Act with respect to such programs or activities administered by the agency. NASA's Civil Rights regulation

(Next page is G-2:9)

BASIC POLICIES

209 Patent Rights in Inventions.

(a) Public Law 96-517 (35 U.S.C. 200 et seg.) governs the disposition of rights in inventions made by small business firms and nonprofit organizations under contracts, grants and cooperative agreements for the performance of experimental, developmental, or research work funded in whole or in part by Federal agencies. This Act takes precedence over any other Acts, including Section 305 of the National Aeronautics and Space Act of 1958, regarding the disposition of rights to such inventions. It takes effect on July 1, 1981, and is applicable to all contracts, grants and cooperative agreements (including subcontracts) with small business firms and nonprofit organizations executed on or after that date. As to inventions "made" on or after July 1, 1981, in the performance of work under any such contracts, grants or cooperative agreements (including subcontracts) executed prior to July 1, 1981, 1245.118 of the NASA Patent Waiver Regulation of July 1, 1981 (14 CFR 1245.1) may be applied. In addition, as to any grant (or subcontract) entered into with a small business firm or domestic nonprofit organization on or after July 1, 1981, the grantee (or subcontractor) is authorized to substitute the current "Patent Rights (Small Business Firms and Nonprofit Organizations)" clause as required by this grant for any previous revision of such clause.

(b) The implementation Public Law 96-517 set forth in the NASA Procurement Regulation, Part 9, Subpart 1, (41 CFR Chapter 18), shall apply equally to all grants and cooperative agreements (including subcontracts thereunder) with a small business firm or nonprofit institution for experimental, developmental or research work to be performed in the United States, awarded and administered under the Grant and Cooperative Agreement Handbook, unless a deviation from such is approved pursuant to paragraph 106 of the Handbook. The clause required by Public Law 96-517 to be made applicable to grants and cooperative agreements is set forth in Exhibit G of this Handbook. Where a deviation is approved or where experimental, developmental or research work is to be performed outside the United States, Patent Counsel should be consulted for the appropriate provisions to be included in the grant or cooperative agreement.

(c) Reports required pursuant to paragraph 409(b) of this Handbook shall be submitted upon receipt by the grants officer, with a copy to the installation Patent Counsel.

be submitted for this purpose. If otherwise acceptable, NASA, at its option, may fund the proposal through a further continuing award or by a standard year-to-year agreement, if long-term effort is no longer anticipated.

(e) *Levels of Continued Support.* Normally, each year of a continuing award will be funded at the approximate level indicated in the original award instrument, subject to satisfactory scientific progress, availability of funds, and continued relevance to NASA programs. This is not, however, a binding commitment as changing NASA program constraints and developments within the project itself may dictate adjustments in the originally anticipated level.

(f) *Programmatic Procedures.* Procurement request initiators who desire to use the continuing award technique should include in their procurement justification packages a brief statement requesting the use of the continuing award, including the expected levels for future periods.

(g) *Other Conditions.* Except as noted above, all regulations, terms and guidelines applicable to regular grants and cooperative agreements apply to continuing awards.

305.3 *Step Funding.*

(a) *Description of Step Funding.* A step funded research project is one for which funds are obligated over a 3-year period. In addition to full support for the first year's effort, funds are also obligated for a second year's operation at approximately two-thirds of the first year level, and for third year's effort at approximately one-third of the first year level. The typical funding schedule anticipates a continuation of the initially established levels in subsequent years, but this is not always the case--planned increases or decreases in level may be projected in advance. In any event, the full amount required to establish the desired steps must be obligated. (See Step Funding Illustration - Exhibit E.)

(b) *Procedures.* The documentation will clearly indicate that the step funding is appropriate and provide a suggested step schedule accommodating both the previously obligated and the new funding. Annual levels should be rounded to the nearest $1,000, where feasible. Annual continuation proposals should project the contemplated effort for 3 years in advance. Wherever possible, renewal or notification to the grantee that further support will not be forthcoming will be issued before the authorized level drops to the next lower step. Normally, step funded grants should not be allowed to expire if the total period of performance is less than 5 years. Except in cases of revocation, funds should not be deobligated from the steps. Do not make "No Cost-time Extensions" to step-funded awards, except when they are in the last year and no additional obligations are planned. Annual funding dates may be changed, if necessary, by appropriately rescheduling the steps. The award instrument shall contain the special condition for step funding (see 420(b)(5)).

306 Numbering of Instruments.

306.1 *Grants.*

(a) The identification numbering system for all research grants shall conform to NASA PR 20.203-3, except that a NAG prefix shall be used in lieu of the NAS prefix.

The prefix designation shall include the Center Identification Number; e.g., NAGW would be the Headquarters prefix designation and NAG5 would be the Goddard prefix designation. Grants will be sequentially numbered beginning with "1."

(b) This numbering system applies to all new research grants awarded beginning in Fiscal Year 1980. Existing grants identified with prefixes NGT and NGF will not be changed. Sequential numbers for new NGT and NGF grants are assigned by the Office of External Relations Management Support Division.

306.2 Cooperative Agreements. The numbering system for cooperative agreements shall be the same as for paragraphs 306.1 (a) and (b), except that NCC (for centers) and NCCW (for Headquarters) prefixes shall be used in lieu of the NAG and NAGW prefixes.

307 Distribution of Grants, Cooperative Agreements, and Grant Supplements. Distribution of grants, cooperative agreements and grant supplements shall be made by the initiating office in accordance with its requirements, except that in all cases:

(a) At least one copy will be furnished to paying offices in order to support the payment file and shall be retained for audit purposes in accordance with paragraph 308.

(b) One copy, plus a copy of the grantee's proposal, will be furnished to the Scientific and Technical Information Office, Code NST-10, NASA Headquarters.

308 Retention of Documents for On-Site Audit. NASA's grants, cooperative agreements and grant supplements designated in paragraph 307 are subject to on-site audit by the General Accounting Office. The original or a signed copy of each document, with supporting data, shall be retained by the installation to be available to the General Accounting Office for audit purposes. Records shall be retained for 3 years after completion.

Chapter 4 - Research Grant and Cooperative Agreement Provisions

400 General. The provisions set forth in this Chapter shall be inserted in and made a part of all NASA grants and cooperative agreements subject to this Handbook. Whenever the words "grant" or "Grantee" appear in these provisions, they shall be deemed to include, as appropriate, the words "cooperative agreement" and "recipient of cooperative agreement" respectively.

401 Technical Reports and Publications.

TECHNICAL REPORTS AND PUBLICATIONS (AUGUST 1982)

(a) All measurement values employed in technical reports prepared under this grant shall be expressed in the International System of Units (SI). Expression in both SI units and customary units is acceptable where the use of SI units alone would obviously impair communications or reduce the usefulness of the report to the primary recipients. When both systems of units are used, SI units are to be stated first and customary units afterwards in parentheses. In each such case, the report shall state which system of units was used for the principal measurements and calculations.

(b) Publication to accomplish widest practicable and appropriate dissemination of research results is encouraged at any time during the course of the investigation. Examples of appropriate media for such dissemination are the learned journals, the proceedings of professional groups, conference presentations, and NASA scientific and technical publications. NASA Grantees may submit the results of their work for publication by whichever media they feel most appropriate. Publications and reports prepared under a grant shall contain a statement which acknowledges NASA's support and identifies the grant by number. Submissions for NASA scientific and technical publications shall be accompanied by manuscripts provided initially in draft. Upon agency review and approval, a reproducible copy shall be submitted in the style and format specified by NASA.

(c) Copies of preprints or manuscripts of each publication shall be provided to NASA for information at the time of submission for publication. Prior approval for publication is not required unless security classification is involved or the grant contains special conditions pertinent to publication of results. Should the preprint or manuscript contain a description of a "Subject Invention," such invention is to be disclosed to NASA as required by the "Patent Rights (Small Business Firms and Nonprofit Organizations)" clause set forth as Exhibit G of the NASA Grant and Cooperative Agreement Handbook.

(d) Brief, informal Semiannual Status Reports, which shall include concise statements of the research accomplished during the report period, including full bibliographic references to,

or abstracts of, publications, shall be submitted. This is a minimum reporting requirement and Grantees are urged to submit interim reports, to publish in the open literature, or to present conference papers whenever the research has reached a point where it is logical to summarize the results, a research phase has been completed, or significant new findings are made.

(e) A final technical report will be submitted upon termination of support under a specific grant, whether or not support is continued under another grant number. The final report may be a comprehensive report of all research findings, suitable for printing as a permanent contribution to knowledge, or it may be a brief summary of the entire project. In either case, cumulated bibliographic references to, or abstracts of, all publications issued during the course of the research shall be included.

(f) Status and final technical reports shall have a title page that displays the title of the grant, the type of report, the name of the Principal Investigator, the period covered by the report, the name and address of the Grantee's institution, and the grant number.

(g) Five copies of all preprints, reprints, manuscripts, status and interim reports, and the final technical report shall be submitted to NASA. Three of these copies shall be sent to the NASA Technical Office designated on the cover page of the grant. The remaining two copies, one of which shall be of a quality suitable for microreproduction, shall be sent to:

NASA Scientific and Technical Information Facility
P.O. Box 8757
Baltimore/Washington International Airport
Maryland 21240

(h) In the event any status, interim, or final technical report submitted to NASA contains information describing a "Subject Invention" for which the Grantee has elected or may elect title, NASA will use reasonable efforts to delay public release by NASA or publication by NASA in a NASA technical report series, up until six months from the date of receipt, in order for a patent application to be filed provided that the Grantee identify the information and the "Subject Invention" to which it relates at the time of submittal.

402 Extensions.

EXTENSIONS (JANUARY 1981)

(a) It is NASA policy to provide maximum possible continuity in funding grant-supported research, and grants may be extended for additional periods of time. Any extension requiring additional funding must be supported by an unsolicited proposal submitted at least 4 months in advance of

the expiration date of the grant. The period of performance shown in the grant documents is approximate, but extension for more than 30 days must be requested by application to the Grants Officer and approved in writing.

(b) When a grant is a continuing award or step funded, NASA will, if circumstances permit, make available additional funding to extend the period. The step funding is based on unsolicited proposals received prior to the completion of each year of full support. NASA shall be the sole judge of whether circumstances will permit this increase. This statement of policy should not be taken as a commitment by NASA.

403 Revocation and Change in Principal Investigator.

REVOCATION (AUGUST 1982)

It is a condition of each grant that it may be revoked in whole or in part by NASA after consultation with the Grantee. In the event of revocation, the Grantee shall refund to NASA any unexpended funds that it has received under the grant, except such portion thereof as may be required by the Grantee to meet commitments which had in the judgement of NASA become firm prior to the effective date of revocation and are otherwise appropriate. Significantly reduced availability of the services of the Principal Investigator(s) named in the grant instrument may be grounds for revocation, unless alternative arrangements are made. The Grantee shall obtain the approval of the NASA Grants Officer to change the Principal Investigator, or to continue the research work during a continuous period in excess of 3 months without the participation of an approved Principal Investigator.

404 Travel.

TRAVEL (MARCH 1981)

(a) Domestic travel is an appropriate charge to research grants and NASA authorization for specific trips is not required. Expenditures for domestic travel shall not exceed $500 or 125% of the amount allotted for such travel in the approved proposal budget, whichever is greater, without the prior authorization of the NASA Grants Officer.

(b) Foreign Travel (all travel outside the 50 United States, the District of Columbia, Puerto Rico, Possessions of the United States, the areas in the Republic of Panama made available to the United States and Canada) must be clearly essential to the research effort and must, to be charged to a grant, have the prior approval of the NASA Grants Officer regardless of its inclusion in the approved proposal budget. NMI 9720.5, "Foreign Travel Costs Charged to Grants,

Contracts, and Other Agreements with Colleges and Universities," sets forth policy and responsibilities governing NASA approval of foreign travel by university personnel when the costs of such travel are chargeable to NASA Contracts, Grants or Cooperative Agreements. In addition, approval of international travel including Canada is dependent upon adherence to the guidelines in Section 5 of the International Air Transportation Act of 1974, which requires use of certificated air carriers if such service is available.

405 Allowable Costs.

405.1 General Guidance.

GENERAL GUIDANCE (JANUARY 1981)

OMB Circular A-21, "Cost Principles for Educational Institutions," and OMB Circular A-122, "Cost Principles for Nonprofit Organizations," OMB Circular A-110, "Grants and Agreements with Institutions of Higher Education, Hospital and other Nonprofit Organizations," and NASA Procurement Regulation (NPR) Part 15, Subpart 3, (41 CFR Chapter 18), are the general guidance documents in determining the allowability of costs chargeable to research sponsored by NASA under Grants and Cooperative Agreements.

405.2 Consultant Services.

CONSULTANT SERVICES (JANUARY 1981)

Payments to individuals for consultant services under a NASA Grant or Cooperative Agreement shall not exceed the daily equivalent of the maximum rate paid to a GS-18 Federal employee (exclusive of indirect cost, travel, per diem, clerical services, vacation, fringe benefits, and supplies).

406 Accounting Records.

ACCOUNTING RECORDS (JANUARY 1981)

(a) The Grantee shall maintain books and accounting records, in accordance with the principles set forth in the documents listed in paragraph 405 of the NASA Grant and Cooperative Agreement Handbook in a manner sufficient to reflect properly all direct and indirect costs incurred or anticipated as a result of commitments made during the period of the grant. Microfilm records are acceptable.

(b) Financial records, supporting documents, statistical records, and all other records pertinent to this grant shall be retained for a period of 3 years, except that:

RESEARCH GRANT AND COOPERATIVE AGREEMENT PROVISIONS

(1) If any litigation, claim or audit is started before the expiration of the 3-year period, the records shall be retained until all litigation, claims, or audit findings involving the records have been resolved, and

(2) Records for nonexpendable property acquired with grant funds shall be retained for 3 years after its final disposition.

(c) The retention period starts from the date of the submission of the final Federal Cash Transactions Report (SF 272).

(d) The Administrator of NASA and the Comptroller General of the United States, or any of their duly authorized representatives, shall have access to any pertinent books, documents, papers and records of the Grantee and to subrecipients to make audits, examinations, excerpts and transcripts.

(e) All of the foregoing provisions shall apply to any subrecipient performing substantive work under this grant.

407 Payment.

PAYMENT (JANUARY 1981)

Advance payments by the Letter-of-Credit or Direct Treasury Check method will be made in accordance with procedures set forth in Exhibit F of the NASA Grant and Cooperative Agreement Handbook.

408 Equipment and Other Property.

EQUIPMENT AND OTHER PROPERTY (MARCH 1981)

(a) NASA research grants permit acquisition of technical property required for the conduct of research. Acquisition of property costing in excess of $1,000 and not included in the approved proposal budget requires the prior approval of the NASA Grants Officer unless the item is merely a different model of an item shown in the approved proposal budget.

(b) NASA grant funds shall not be used to purchase items such as furniture, furnishings, office equipment or other items of a nontechnical nature; exceptions to this require approval of the NASA Grants Officer and must be fully justified as essential to the research under the grant. Under no circumstances shall grant funds be used to acquire land or any interest therein, to acquire or construct facilities or to procure passenger carrying vehicles.

(c) Title to equipment purchased with grant funds shall vest in the Grantee unless otherwise provided. The Government reserves the right to require transfer to itself title to items purchased at a cost of $1,000 or more. Such reservation

is subject to the conditions of paragraph 505 of the NASA Grant and Cooperative Agreement Handbook.

(d) Title to Government-furnished property (including equipment, title to which has been transferred to the Government pursuant to subparagraph (c) prior to completion of the work) will remain with the Government.

(e) Title to expendable property shall vest in the recipient upon acquisition. If there is a residual inventory of such property exceeding $1,000 in total aggregate fair market value, upon termination or completion of the grant or other agreement, and the property is not needed for any other Federally sponsored project or program, the recipient shall retain the property for use on non-Federally sponsored activities, or sell it, but must in either case, compensate the Federal Government for its share. The amount of compensation shall be computed in accordance with subparagraph 6c, Attachment N to OMB Circular A-110.

(f) The Grantee shall maintain property records and otherwise manage nonexpendable personal property utilized in the performance of this grant in accordance with the provisions of Paragraph 509 of the NASA Grant and Cooperative Agreement Handbook. Grantees will submit annually an inventory listing of Government owned property in their custody to the Grants Officer. Such listings will be as of June 30, will be submitted by July 31, and will reflect the record elements required in Paragraph 509(b)(1) and beginning and ending dollar value totals for the period. Upon completion of the agreement or when the property is no longer needed, the recipient shall notify the Grants Officer, who will provide disposition instructions. The Grants Officer will provide a copy of each annual inventory listing to the NASA installation Financial Management Office upon receipt.

409 Patent Rights (Small Business Firms or Nonprofit Organizations).

PATENT RIGHTS (SMALL BUSINESS FIRMS AND NONPROFIT ORGANIZATIONS) (AUGUST 1982)

(a) The disposition of rights to inventions made in the performance of work under this grant will be made in accordance with Public Law 96-517 (94 Stat. 3019, 35 U.S.C. 200 et seq.) and NASA's implementing regulations as set forth in the NASA Procurement Regulation, Part 9, Subpart 1, paragraphs 9.108 and 9.109 (41 CFR Chapter 18). The provisions (clause) required by NASA PR 9.108-5, entitled "Patent Rights (Small Business Firms and Nonprofit Organizations)" is set forth as Exhibit G of the NASA Grant and Cooperative Agreement Handbook, and is hereby made applicable to this grant. The Grantee shall include an appropriate patent rights provision

in accordance with paragraph (g) of Exhibit G in all subcontracts.

(b) All disclosures of Subject Inventions, election of rights, utilization reports, and other reports and information required by the aforementioned "Patent Rights (Small Business Firms and Nonprofit Organizations)" clause shall be submitted to the Grants Officer, with a copy to the Installation Patent Counsel. Copies of status and final reports bearing on patent matters shall also be sent to the Installation Patent Counsel.

410 Rights in Data.

RIGHTS IN DATA (JANUARY 1981)

The Grantee grants to the Government, for Governmental purposes, the right to publish, translate, reproduce, deliver, use and dispose of, and to authorize others to do so, all data, including reports, drawings, blueprints, and technical information resulting from the performance of work under this grant.

411 Security.

SECURITY (JANUARY 1981)

Normally, NASA research grants do not involve classified defense information. However, if information is sought or developed by the Grantee that should be classified in the interests of national security, the NASA Grants Officer that issued the grant shall be notified immediately.

412 Civil Rights.

CIVIL RIGHTS (JANUARY 1981)

Work on NASA Grants is subject to the provisions of the Civil Rights Act of 1964, and the NASA implementing regulations (14 CFR 1250).

413 Safety.

SAFETY (JANUARY 1981)

(a) The Grantee shall act responsibly in matters of safety and shall take all reasonable safety measures in performing under this grant. The Grantee shall comply with all applicable Federal, State, and local laws relating to safety. The Grantee shall maintain a record of, and will notify the NASA Grants Officer of any accident involving death, disabling injury or substantial loss of property. The Grantee will advise NASA of hazards that come to its attention as a result of the work

under the grant through routine status reports furnished in compliance with the Grant.

(b) Where the work under this grant involves flight hardware, the hazardous aspects, if any, of such hardware will be identified, in writing, by the Grantee. Compliance with the provisions of this clause by subcontractors shall be the responsibility of the Grantee.

414 Subcontracts.

SUBCONTRACTS (AUGUST 1982)

(a) Approval of subcontracts for the purchase of property or equipment under this grant shall be obtained in accordance with the provision herein entitled "Equipment and Other Property." All other subcontracts not provided for in the approved proposal budget require the prior consent of the Grants Officer.

(b) In accordance with the Small Business Amendments, Public Law 95-507, small and disadvantaged firms shall be utilized as subcontractors to Grantees to the maximum extent.

415 (Reserved).

416 Communications.

COMMUNICATIONS (AUGUST 1982)

The Principal Investigator may expect to be contacted by the NASA Technical Officer named on the cover page of the grant in connection with the research aspects of the work under the grant. Inquiries regarding the research aspects of the grant should be directed to the NASA Technical Officer. However, written or oral communications of an administrative nature, such as approval of foreign travel, property matters, patent matters, extension of the term of the grant, etc., shall be channeled through the Grantee's business office to the Grants Officer.

417 Financial Management System.

FINANCIAL MANAGEMENT SYSTEM (JANUARY 1981)

The Grantee's financial management system shall meet the standards set forth in paragraph 511 of the NASA Grant and Cooperative Agreement Handbook.

418 Procurement Standards.

PROCUREMENT STANDARDS (JANUARY 1981)

CFR TITLE 14 CHAPTER V

RESEARCH GRANT AND COOPERATIVE AGREEMENT PROVISIONS

The Grantee's procurement practices shall meet the standards set forth in paragraph 512 of the NASA Grant and Cooperative Agreement Handbook.

419 Additional Provision for Cooperative Agreements.
With respect to cooperative agreements under Public Law 95-224, it has been determined that the NASA guidelines and regulations applicable to grants will apply to cooperative agreements. The Cooperative Agreements, NASA Form 1562 (see Exhibit C), shall contain a special provision stating the nature of the recipient/NASA interaction in accordance with Public Law 95-224. That special provision is as follows:

COOPERATIVE AGREEMENT SPECIAL PROVISION (JANUARY 1981)

(a) This award is a Cooperative Agreement as it is anticipated that there will be substantial NASA involvement during performance of the effort. That is, the recipient can expect NASA collaboration or participation in the management of the project.
(b) NASA and the recipient mutually agree to the following statement of anticipated cooperative interactions which may occur during the performance of this effort. (Briefly state the nature of the cooperative interactions).

420 Special Conditions.
(a) In addition to the general provisions set forth in this Chapter, NASA grants and cooperative agreements are subject to various conditions which either are not applicable to all awards or are temporary in nature. Such conditions are not printed in NASA Form 1463A, "NASA Provisions for Research Grants and Cooperative Agreements" (Exhibit D), but are contained in a form, "Special Conditions," which is reproduced locally at individual NASA installations. In using the "Special Conditions" form, the Grants Officer indicates by check mark the specific clauses which are applicable to individual grants and fills in the blank sections of incomplete clauses as appropriate.
(b) All "Special Conditions" forms shall contain the following heading and number clauses:

SPECIAL CONDITIONS

Grant No. .....

The special conditions checked below are applicable to this Award:

(1) Federal Cash Transactions Report. Pursuant to the clause, "Payment," of the NASA Provisions for Research Grants

and Cooperative Agreements, the "Federal Cash Transactions Report," Standard Form 272, shall be submitted quarterly to:
(Installation)

(Next page is G-4:7)

Chapter 5-Administration of Research Grants and Cooperative Agreements

501 General.

(a) NASA assumes that, once a grant or cooperative agreement is made, the principal investigator, operating within the policies of the grantee institution, is in the best position to determine the means by which the research may be conducted most effectively. The term "grantee" refers to recipients of both grants and cooperative agreements. NASA wishes to avoid any action that might diminish the responsibility of the grantee and the investigator for making sound scientific and administrative judgments. Grantees and investigators are encouraged to seek the advice and opinions of NASA on problems that may arise. Unless otherwise stated, the giving of such advice should not imply that the responsibility for final decisions has shifted to NASA. The primary concern of NASA is that granted funds be used in a manner that will make a maximum contribution to the scientific area under investigation. It is expected that grantees and investigators will also direct their efforts to this end. Therefore, the grantee may change the methods and procedures employed in performing the research as scientific judgement dictates without the need to obtain NASA approval. However, it is expected that significant changes in methods or procedures will be discussed in the status or technical reports.

(b) The grantee shall obtain the approval of the NASA grants officer to change the principal investigator, or to continue the research work during a continuous period in excess of 3 months without the participation of an approved principal investigator.

(c) It is NASA policy to make optimum use of the administration functions available from the Department of Defense (DOD) and other Government agencies. Property administration and plant clearance for grants and cooperative agreements will be delegated to the cognizant administering activity.

502 Instrument. A NASA grant or cooperative agreement is consummated by an instrument signed by the NASA Administrator, or duly authorized representative and contains the provisions set forth in Chapter 4.

503 Instrument Period.

(a) Normally, NASA grants and cooperative agreements are made for periods up to 3 years. As stated in the instrument, the period is approximate; the beginning and ending dates are not specified with precision. The instrument period begins approximately on the date thereof and extends for approximately the length of time specified. However, when progress of research under the grant or cooperative agreement is delayed and circumstances make it necessary to request an extension of the period without additional funds, the policy of NASA is to permit extensions in time, upon written request.

(b) When it appears that the research contemplated will be completed within 30 days after the approximate ending date, a request for extension of the instrument period will be unnecessary. If it appears, however, that the additional time required for completion of the research will exceed 30 days, a request for extension must be made by the grantee. Any extension requiring additional funding must be supported by an unsolicited proposal and submitted at least 4 months in advance of the expiration date of the grant or cooperative agreement.

504 Adherence to Original Budget Estimates.

(a) NASA believes that the principal investigator, operating within the established policies of the grantee, is the individual best qualified to determine the manner in which the grant or cooperative agreement funds may be used most effectively to accomplish the proposed research. Although NASA assumes no responsibility for overspent budgets, the investigator and the grantee institution are free to spend grant or cooperative agreements funds for the proposed research without strict adherence to individual allocations within total budgets, except as provided in paragraphs 404 and 408. Under no circumstances, however, may grant or cooperative agreements funds be used to acquire land or any interest therein, to acquire or construct facilities or to procure passenger carrying vehicles. Purchase of furniture, furnishings, office equipment or other items of a nontechnical nature require the prior approval of the NASA grants officer as provided in paragraph 408.

(b) Controls and limitations on expenditures for specific items under NASA grants or cooperative agreements shall be in accordance with the provisions of paragraph 405.

(c) If any of the actions requiring approval in accordance with paragraph 405 of this Handbook have received specific NASA approval during the proposal and award process, a further approval shall not be required. Whenever practical, the approvals shall be given at the time of the project award or extension to avoid any delays during the course of the project.

(d) Approval requirements relating to expenditures under grants and cooperative agreements, in addition to those provided for in paragraph 405, shall not be imposed except in accordance with the deviation procedure of paragraph 106 or as specifically required by statue.

505 Use, Disposition and Vesting of Title to Research Equipment.

(a) Background.

(1) Support of research in educational institutions provides substantial long-term and indirect benefits as well as the immediate research results. In addition to the obvious academic advantages of such support, individual and institutional capabilities to perform relevant research are

enhanced, and the number of scientists and graduates with research interests in areas of concern to the nation generally, and to NASA in particular, is increased. Adequate modern research equipment in universities serves to maximize these direct and supplemental benefits.

(2) NASA funds research in academic areas in which the university has, and expects to maintain, a capacity for research and education. The research equipment that it acquires has, therefore, an especially high potential for continuing effective use at the acquiring institution. The legitimate interests of both NASA and the university, as well as the long-term national interest, require that any decision by the agency to take title for the purpose of transferring grantee equipment to another location reflect careful consideration of all relevant factors. This should include comparison of the expected beneficial use at the present location with that expected at the new location, possible deleterious effects of removal, and the administrative and relocation costs involved.

(b) Policy. The following policies will be reflected, as appropriate, in the negotiation and the documentation of NASA research grants, cooperative agreements and supplements thereto and in related correspondence:

(1) Title to equipment purchased with grant and cooperative agreement funds vests in the grantee institution, and the equipment does not automatically follow the principal investigator when he or she leaves the institution. Title to Government-furnished equipment remains with the Government. In accordance with Pub. L. 95-519, NASA Policy is normally not to furnish acquired excess property to grantees as NASA would in such event have to pay 25% of the original acquisition cost of the equipment to the Treasury. When Government-furnished equipment is reported excess by a grantee, the grants officer will report the equipment to the installation property disposal officer for further NASA use. If NASA has no further need for the property, it shall be declared excess and reported to the General Services Administration. Appropriate disposition instructions will be issued to the recipient after completion of the Federal agency review.

(2) NASA may require transfer to it of title to individual items or coherent systems (subparagraph (8)) of major grantee acquired equipment purchased at a cost of more than $1,000 subject to the following conditions:

(i) The equipment shall be appropriately identified to the recipient in writing.

(ii) NASA shall issue disposition instructions within 120 calendar days after the end of the Federal support of the project for which it was acquired. If NASA fails to issue dispostion instructions within the 120 calendar day period, the grantee shall apply the standards of subparagraphs 6b and 6c, Attachment N to OMB Circular A-110 as appropriate.

(iii) When NASA exercises its right to take title, the equipment shall be subject to the provisions for federally-owned nonexpendable property discussed in subparagraph 408(f).

(iv) When title is transferred to the Federal Government, the provisions of subparagraph 6c(2)(b), Attachment N to OMB Circular A-110 shall be followed.

(3) Title to minor equipment items (costing individually $1,000 or less) is not subject to transfer to the agency, except under the conditions of subparagraph (8).

(4) NASA procedure does not require a grantee to transfer title to grant or cooperative agreement-acquired equipment directly to another actual or potential grantee or contractor. Such transfers are accomplished by the Government taking title and issuing the equipment to the second institution as Government-furnished equipment.

(5) NASA normally will not recover equipment that a grantee desires to retain, for reissuance to another institution or to a NASA installation, unless it is specifically required for NASA work at the new location. Exceptions will be made only in highly unusual situations where title transfer is clearly in the best interest of the Government.

(6) Cost sharing by NASA and a grantee in the acquistion of individual items or coherent systems (subparagraph (8)) of equipment, in response to a statutory requirement for cost-sharing or in any way that could result in joint ownership, shall normally be avoided.

(7) When cost sharing by NASA and a grantee in the acquisition of major equipment items or coherent systems cannot be avoided, and the NASA contribution will exceed $1,000, agreement regarding NASA retention of its option to take title and the conditions under which the option (if retained) will be exercised, shall be reached and documented prior to purchase. NASA shall have no option to take title if its contribution is $1,000 or less.

(8) When two or more components are fabricated into a single coherent system in such a way that the components lose their separate identities and their separation would render the system useless for its original purpose, the components will be considered as integral parts of a single system. If such a system includes grantee-owned components (for cost sharing or other purposes), subparagraph (7) applies. The requirement that NASA seek agreement to retain its option to take title shall further apply where it is expected that one or more grant-acquired components costing $1,000 or less will be fabricated into a single coherent system costing in excess of $1,000. However, an item that is used ancillary to a system, without loss of its separate identity and usefulness, will be considered as a separate item and not as an integral component of the system.

(c) Procedures.

ADMINISTRATION OF RESEARCH GRANTS AND COOPERATIVE AGREEEMENTS

(1) When a decision is made to revoke or discontinue support of a grant or cooperative agreement, the grants officer shall notify the grantee in writing of the requirement under the instrument for submission of a final inventory report of Government-furnished equipment.

(2) When the cognizant NASA technical officer or program manager desires that NASA take title to a major item of grantee purchased equipment, the technical officer shall request the grants officer to obtain information regarding the grantee's desire to retain the equipment, the use to which it would be put in the absence of further NASA support of the grant or cooperative agreement, and any substantial deleterious effects of removal of the equipment.

(3) The grants officer shall obtain the information and provide copies to the technical officer and the Supply and Equipment Management Branch for their coordinated review and recommendation regarding acquisition of title. The technical officer shall inform the grants officer of the recommendation by means of a memorandum concurred in by the Supply and Equipment Management Branch.

(4) When NASA acquires title to major items of grantee purchased equipment, the grants officer shall notify both the cognizant NASA installation financial management officer and supply and equipment management officer so that proper entries can be made in financial and property accounting records.

506 Revocation.

(a) NASA grants and cooperative agreements may be revoked in whole or in part by NASA after consultation with the grantee, except that a revocation shall not affect any financial commitment which in the judgment of NASA had become firm prior to the effective date of the revocation and is otherwise appropriate. Upon revocation, the grantee shall reduce, insofar as possible, the amount of outstanding commitments and repay by check made payable to the National Aeronautics and Space Administration, the uncommitted balance of all funds that have been paid to the grantee by NASA under the terms of the particular grant or cooperative agreement.

(b) The grantee shall communicate with NASA whenever it has reason to believe that circumstances may necessitate revocation of the grant or cooperative agreement. The most common cause for revocation would be the inability of the grantee to carry out the research for which the grant or cooperative agreement was made or to adhere to the other conditions set forth in the instrument. As a general rule, the availability of the services of the principal investigator named in the instrument is a decisive factor in NASA's decision to award the grant or cooperative agreement. Consequently, NASA should be informed immediately whenever it appears that the principal investigator will find it impossible to continue to direct the research.

507 Transfer of Grants or Cooperative Agreements to Other Institutions. Awards cannot be transferred from one institution to another. However, when the principal investigator changes his or her organizational affiliation and desires support for the research at a new location, he or she must submit a new proposal via the appropriate officials of the new institution. Although such a proposal will be reviewed in the normal manner, every effort will be made to expedite a decision. Regardless of the action taken on the new proposal, final reports on the original grant or cooperative agreement, describing the scientific progress and expenditure to date, will be required if that instrument is revoked.

508 Accounting Procedures. While no particular classification of accounts is required, it is expected that grantees will maintain records for each grant or cooperative agreement, in accordance with the principles enunciated in paragraph , which will permit preparation of the required fiscal report and make possible the determination that grant or cooperative agreement funds were used for the general purpose for which the award was made.

509 Property Management Standards.

(a) *Definitions.* The following definitions apply for the purpose of this paragraph.

(1) *Real Property.* Real property means land, including land improvements, structures and appurtenances thereto, but excluding movable machinery and equipment.

(2) *Personal Property.* Personal property means property of any kind except real property. It may be tangible, having physical existence; or intangible, having no physical existence, such as patents, inventions and copyrights.

(3) *Nonexpendable Personal Property.* Nonexpendable personal property means tangible personal property having a useful life of more than 2 years and an acquisition cost of $500 or more per unit. A recipient may use its own definition of nonexpendable personal property provided the definition would at least include all tangible personal property as defined above. "Equipment" as used in this Handbook, is another term for nonexpendable personal property.

(4) *Expendable Personal Property.* Expendable personal property refers to all tangible personal property other than nonexpendable personal property.

(5) *Excess Personal Property.* Excess personal property means any personal property under the control of any Federal agency which is not required for its needs and the discharge of its responsibilities, as determined by the Head thereof.

(6) *Acquisition Cost of Purchased Nonexpendable Personal Property.* Acquisition cost of an item of purchased nonexpendable personal property means the net invoice unit price of the property including the cost of modifications, attachments, accessories or auxiliary apparatus necessary to make the property usable for the purpose for which it was acquired. Other charges such as the cost of installation, transportation, taxes, duty or protective in-transit insurance, shall be included or excluded from the

Chapter 6 - Reports

600 General. This Chapter prescribes reports designed to provide records and statistics for management purposes and to comply with statutory requirements.

601 Individual Procurement Action Report (NASA Form 507). The Individual Procurement Action Report (NASA Form 507) is designed to provide essential procurement records and statistics through a single, uniform reporting program as a basis for required recurring and special reports to the President, the Congress, the Department of Labor, the Office of Emergency Preparedness, the General Accounting Office, the Small Business Administration, and other Federal agencies. The preparation and utilization of NASA Form 507 has been made an integral part of the agencywide system for the recording and reporting of financial and contractual status (FACS). Complete instructions covering the operation of this system are contained in the NASA Financial Management Manual.

602 Committee on Academic Science and Engineering (CASE) Reports. NASA Form 1356, "Committee on Academic Science and Engineering (C.A.S.E.) Report on College and University Projects" is either submitted with funded procurement requests pursuant to NMI 5101.12, "Policy and Procedures Concerning Procurement," or in the case of certain non-funded actions, initiated by the procuring office. All NASA Forms 1356 will be completed, checked and promptly forwarded to the Procurement Management Division, NASA Headquarters (Code HM-1), in accordance with the instructions on the form.

603 Federal Cash Transactions Report (SF 272). Federal Cash Transactions Reports (SF 272) will be submitted quarterly as a condition of receiving advance payments, in accordance with Exhibit F of this Handbook.

604 Annual Inventory Listing of Government-Owned Property. As provided in paragraph 408(f) of this Handbook, an annual inventory listing of Government-owned property will be submitted by July 31 of each year, including the information specified in paragraph 509 and beginning and ending dollar value totals for the reporting period.

605 Status and Final Reports.

(a) Five copies of a brief, informal, Semiannual Status Report including a concise statement of the research accomplished during the report period shall be submitted.

(b) Upon completion of the research, the grantee shall submit five copies of a final technical report which summarizes the results of the entire project. Citation of publications resulting from the research, or abstracts thereof, may serve as all or part of this final report. Research results not intended for publication in technical journals must be in the format prescribed for NASA Technical Notes. In addition, the grantee will report to NASA whether or not any inventions required to be reported under the grant or cooperative agreement have been made in the performance of work thereunder.

(c) A properly certified final fiscal report is required for each grant and cooperative agreement. Report forms for this purpose are forwarded to the business office of the grantee institution, together with the copy of the instrument; additional forms may be requested. Two copies of the final fiscal report should be forwarded to NASA after work under the grant or cooperative agreement has been completed.

NASA
National Aeronautics and Space Administration

NASA Provisions for Research Grants and Cooperative Agreements

Under the Federal Grant and Cooperative Agreement Act of 1977, Public Law 95-224 (41 U.S.C. 501 et. seq.) NASA is authorized to award grants and cooperative agreements. Whenever the words "grant" or "Grantee" appear in these provisions, they shall be deemed to include, as appropriate, the words "cooperative agreement" and "recipient of cooperative agreement," respectively.

Technical Reports and Publications (August 1982)

(a) All measurement values employed in technical reports prepared under this grant shall be expressed in the International System of Units (SI). Expression in both SI units and customary units is acceptable where the use of SI units alone would obviously impair communications or reduce the usefulness of the report to the primary recipients. When both systems of units are used, SI units are to be stated first and customary units afterwards, in parentheses. In each such case, the report shall state which system of units was used for the principal measurements and calculations.

(b) Publication to accomplish widest practicable and appropriate dissemination of research results is encouraged at any time during the course of the investigation. Examples of appropriate media for such dissemination are the learned journals, the proceedings of professional groups, conference presentations, and NASA scientific and technical publications. NASA Grantees may submit the results of their work for publication by whichever media they feel most appropriate. Publications and reports prepared under a grant shall contain a statement which acknowledges NASA's support and identifies the grant by number. Submissions for NASA scientific and technical publications shall be accompanied by manuscripts provided initially in draft. Upon agency review and approval, a reproducible copy shall be submitted in the style and format specified by NASA.

(c) Copies of preprints or manuscripts of each publication shall be provided to NASA for information at the time of submission for publication. Prior approval for publication is not required unless security classification is involved or the grant contains special conditions pertinent to publication of results. Should the preprint or manuscript contain a description of a "Subject Invention," such invention is to be disclosed to NASA as required by the "Patent Rights (Small Business Firms and Nonprofit Organizations)" clause set forth as Exhibit G of the NASA Grant and Cooperative Agreement Handbook.

(d) Brief, informal Semiannual Status Reports, which shall include concise statements of the research accomplished during the report period, including full bibliographic references to, or abstracts of, publications, shall be submitted. This is a minimum reporting requirement, and Grantees are urged to submit interim reports, to publish in the open literature, or to present conference papers, whenever the research has reached a point where it is logical to summarize the results, a research phase has been completed, or significant new findings are made.

(e) A final technical report will be submitted upon termination of support under a specific grant, whether or not support is continued under another grant number. The final report may be a comprehensive report of all research findings, suitable for printing as a permanent contribution to knowledge, or it may be a brief summary of the entire project. In either case, cumulated bibliographic references to, or abstracts of, all publications issued during the course of the research shall be included.

(f) Status and final technical reports shall have a title page that displays the title of the grant, the type of report, the name of the Principal Investigator, the period covered by the report, the name and address of the Grantee institution, and the grant number.

(g) Five copies of all preprints, reprints, manuscripts, status and interim reports, and the final technical report shall be submitted to NASA. Three of these copies shall be sent to the NASA Technical Office designated on the cover page of the grant. The remaining two copies, one of which shall be of a quality suitable for microreproduction, shall be sent to:

NASA Scientific and Technical Information Facility
P.O. Box 8757
Baltimore/Washington International Airport
Maryland 21240

(h) In the event any status, interim, or final technical report submitted to NASA contains information describing a "Subject Invention" for which the Grantee has elected or may elect title, NASA will use reasonable efforts to delay public release by NASA or publication by NASA in a NASA technical report series, up until six months from the date of receipt, in order for a patent application to be filed *provided* that the Grantee identify the information and the "Subject Invention" to which it relates at the time of submittal.

Extensions (January 1981)

(a) It is a NASA policy to provide maximum possible continuity in funding Grant-supported research, and grants may be extended for additional periods of time. Any extension requiring additional funding must be supported by an unsolicited proposal submitted at least 4 months in advance of the expiration date of the grant. The period of performance shown in the grant document is approximate, but extension for more than 30 days must be requested by application to the Grants Officer and approved in writing.

(b) When a grant is a continuing award or step funded, NASA will, if circumstances permit, make available additional funding to extend the period. The step funding is based on unsolicited proposals received prior to the completion of each year of full support. NASA shall be the sole judge of whether circumstances will permit this increase. This statement of policy should not be taken as a commitment by NASA.

Revocation and Change in Principal Investigator (August 1982)

It is a condition of each grant that it may be revoked in whole or in part by NASA after consultation with the Grantee. In the event of revocation, the Grantee shall refund to NASA any unexpended funds that it has received under the grant, except such portion thereof as may be required by the Grantee to meet commitments which had in the judgement of NASA become firm prior to the effective date of revocation and are otherwise appropriate. Significantly reduced availability of the services of the Principal Investigator(s) named in the grant instrument may be grounds for revocation, unless alternative arrangements are made. The Grantee shall obtain the approval of the NASA Grants Officer to change the Principal Investigator, or to continue the research work during a continuous period in excess of three months without the participation of an approved Principal Investigator.

Travel (March 1981)

(a) Domestic travel is an appropriate charge to research grants and NASA authorization for specific trips is not required. Expenditures for domestic travel shall not exceed $500 or 125% of the amount allotted for such travel in the approved proposal budget, whichever is greater, without the prior authorization of the NASA Grants Officer.

(b) Foreign travel (all travel outside the 50 States, the District of Columbia, Puerto Rico, Possessions of the United States, the areas in the Republic of Panama made available to the United States and Canada) must be clearly essential to the research effort and must, to be charged to a grant, have the prior approval of the NASA Grants Officer regardless of its inclusion in the approved proposal budget. NMI 9720.5, "Foreign Travel Costs Charged to Grants, Contracts and Other Agreements with Colleges and Universities," sets forth policy and responsibilities governing NASA approval of foreign travel by university personnel when the costs of such travel are chargeable to NASA contracts, grants or cooperative agreements. In addition, approval of international travel including Canada is dependent upon adherence to the guidelines in Section 5 of the International Air Transportation Act of 1974, which requires use of certificated air carriers if such service is available.

Allowable Costs (January 1981)

(a) General Guidance, OMB Circular A-21, "Cost Principles for Educational Institutions," and OMB Circular A-122, "Cost Principles for Nonprofit Organizations," OMB Circular A-110, "Grants and Agreements with Institutions of Higher Education, Hospital and other Nonprofit Organizations," and NASA Procurement Regulation (NPR) Part 15, Subpart 3, (41 CFR Chapter 18), are the general guidance documents in determining the allowability of costs chargeable to research sponsored by NASA under grants and cooperative agreements.

(b) Consultant Services. Payments to individuals for consultant services under a NASA grant or cooperative agreement shall not exceed the daily equivalent of the maximum rate paid to a GS-18 Federal employee (exclusive of indirect cost, travel, per diem, clerical services, vacation, fringe benefits, and supplies).

Accounting Records (January 1981)

(a) The Grantee shall maintain books and accounting records, in accordance with the principles set forth in the documents listed in Paragraph 405 of the NASA Grant and Cooperative Agreement Handbook in a manner sufficient to reflect properly all direct and indirect costs incurred or anticipated as a result of commitments made during the period of the grant. Microfilm records are acceptable.

(b) Financial records, supporting documents, statistical records, and all other records pertinent to this grant shall be retained for a period of 3 years, except that:

(1) If any litigation, claim or audit is started before the expiration of the 3-year period, the records shall be retained until all litigation, claims, or audit findings involving the records have been resolved, and

(2) Records for nonexpendable property acquired with grant funds shall be retained for 3 years after its final disposition.

(c) The retention period starts from the date of the submission of the final Federal Cash Transactions Report (SF 272).

(d) The Administrator of NASA and the Comptroller General of the United States, or any of their duly authorized representatives, shall have access to any pertinent books, documents, papers and records of the Grantee and to subrecipients to make audits, examinations, excerpts and transcripts.

(e) All of the foregoing provisions shall apply to any subrecipient performing substantive work under this grant.

Payment (January 1981)

Advance payments by the Letter-of-Credit or Direct Treasury Check method will be made in accordance with procedures set forth in Exhibit F of the NASA Grant and Cooperative Agreement Handbook.

Equipment and Other Property (March 1981)

(a) NASA research grants permit acquisition of technical property required for the conduct of research. Acquisition of property costing in excess of $1,000 and not included in the approved proposal budget requires the prior approval of the NASA Grants Officer unless the item is merely a different model of an item shown in the approved proposal budget.

(b) NASA grant funds shall not be used to purchase items such as furniture, furnishings, office equipment or other items of a nontechnical nature; exceptions to this require approval of the NASA Grants Officer and must be fully justified as essential to the research under the grant. Under no circumstances shall grant funds be used to acquire land or any interest therein, to acquire or construct facilities or to procure passenger carrying vehicles.

(c) Title to equipment purchased with grant funds shall vest in the Grantee unless otherwise provided. The Government reserves the right to require transfer to itself title to items purchased at a cost of $1,000 or more. Such reservation is subject to the conditions of Paragraph 505 of the NASA Grant and Cooperative Agreement Handbook.

(d) Title to Government property (including equipment, title to which has been transferred to the Government pursuant to subparagraph (c) prior to completion of the work) will remain with the Government.

(e) Title to expendable property shall vest in the recipient upon acquisition. If there is a residual inventory of such property exceeding $1,000 in total aggregate fair market value, upon termination or completion of the grant or other agreement, and the property is not needed for any other Federally sponsored project or program, the recipient shall retain the property for use on non-Federally sponsored activities, or sell it, but must in either case, compensate the Federal Government for its share. The amount of compensation shall be computed in accordance with subparagraph 6c, Attachment N to OMB Circular A-110.

(f) The Grantee shall maintain property records and otherwise manage nonexpendable personal property utilized in the performance of this grant in accordance with the provisions of Paragraph 509 of the NASA Grant and Cooperative Agreement Handbook. Grantees will submit annually an inventory listing of Government-owned property in their custody to the Grants Officer. Such listings will be as of June 30, will be submitted by July 31, and will reflect the record elements required in Paragraph 509(b)(1) and beginning and ending dollar value totals for the period. Upon completion of the agreement or when the property is no longer needed, the recipient shall notify the Grants Officer, who will provide disposition instructions. The Grants Officer will provide a copy of each annual inventory listing to the NASA installation Financial Management Office upon receipt.

Patent Rights (Small Business Firms and Nonprofit Organizations) (August 1982)

(a) The disposition of rights to inventions made in the performance of work under this grant will be made in accordance with Public Law 96-517 (94 Stat. 3019, 35 U.S.C. 200 et seq.) and NASA's implementing regulations as set forth in the NASA Procurement Regulation, Part 9, Subpart 1, Paragraphs 9.108 nd 9.109 (41 CFR Chapter 18). The provision (clause) required by NASA PR 9.108-5, entitled "Patent Rights (Small Business Firms and Nonprofit Organizations)" is set forth as Exhibit G of the NASA Grant and Cooperative Agreement Handbook, and is hereby made applicable to this grant. The Grantee shall include an appropriate patent rights provision in accordance with Paragraph (g) of Exhibit G in all subcontracts.

(b) All disclosures of Subject Inventions, election of rights, and other reports and information required by the aforementioned "Patent Rights (Small Business Firms and Nonprofit Organizations)" clause shall be submitted to the Grants Officer, with a copy to the Installation Patent Counsel. Copies of status and final reports bearing on patent matters shall also be sent to the Installation Patent Counsel.

Rights in Data (January 1981)

The Grantee grants to the Government, for Governmental purposes, the right to publish, translate, reproduce, deliver, use and dispose of, and to authorize others to do so, all data, including reports, drawings, blueprints, and technical information resulting from the performance of work under this grant.

Security (January 1981)

Normally, NASA research grants do not involve classified defense information. However, if information is sought or developed by the Grantee that should be classified in the interests of national security, the NASA Grants Officer that issued the grant shall be notified immediately.

Civil Rights (January 1981)

Work on NASA grants is subject to the provisions of the Civil Rights Act of 1964, and the NASA implementing regulations (14 CFR 1250).

Safety (January 1981)

(a) The Grantee shall act responsibly in matters of safety and shall take all reasonable safety measures in performing under this grant. The Grantee shall comply with all applicable Federal, State, and local laws relating to safety. The Grantee shall maintain a record of, and will notify the NASA Grants Officer of any accident involving death, disabling injury or substantial loss of property. The Grantee will advise NASA of hazards that come to its attention as a result of the work under the grant through routine status reports furnished in compliance with the grant.

(b) Where the work under this grant involves flight hardware, the hazardous aspects, if any, of such hardware will be identified, in writing, by the Grantee. Compliance with the provisions of this clause by subcontractors shall be the responsibility of the Grantee.

Subcontracts (August 1982)

(a) Approval of subcontracts for the purchase of property or equipment under this grant shall be obtained in accordance with the provision herein entitled "Equipment and Other Property." All other subcontracts not provided for in the approved proposal budget require the prior consent of the Grants Officer.

(b) In accordance with the Small Business Act Amendments, Public Law 95-507, small and disadvantaged firms shall be utilized as subcontractors to Grantees to the maximum extent.

Communications (August 1982)

The Principal Investigator may expect to be contacted by the NASA Technical Officer named on the cover page of the grant in connection with the research aspects of the work under the grant. Inquiries regarding the research aspects of the grant should be directed to the NASA Technical Officer. However, written or oral communications of an administrative nature, such as approval of foreign travel, property matters, patent matters, extension of the term of the grant, etc., shall be channeled through the Grantee's business office to the Grants Officer.

Financial Management System (January 1981)

The Grantee's financial management system shall meet the standards set forth in Paragraph 511 of the NASA Grant and Cooperative Agreement Handbook.

Procurement Standards (January 1981)

The Grantee's procurement practice shall meet the standards set forth in Paragraph 512 of the NASA Grant and Cooperative Agreement Handbook.

PATENT RIGHTS
(SMALL BUSINESS FIRMS AND NONPROFIT ORGANIZATIONS)
(AUGUST 1982)

(a) Definitions.

(1) "Invention" means any invention or discovery which is or may be patentable or otherwise protectable under Title 35 of the United States Code.

(2) "Subject Invention" means any invention of the Grantee conceived or first actually reduced to practice in the performance of work under this grant.

(3) "Practical Application" means to manufacture in the case of a composition or product, to practice in the case of a process or method, or to operate in the case of a machine or system; and, in each case, under such conditions as to establish that the invention is being utilized and that its benefits are, to the extent permitted by law or Government regulations, available to the public on reasonable terms.

(4) "Made" when used in relation to any invention means the conception or first actual reduction to practice of such invention.

(5) "Small Business Firm" means a small business concern as defined at Section 2 of Public Law 85-536 (15 U.S.C. 632) and implementing regulations of the Administrator of the Small Business Administration. For the purpose of this clause, the size standards for small business concerns involved in Government procurement, and subcontracting at 13 C.F.R. 121.3-8 and 13 C.F.R. 121.3-12, respectively, will be used.

(6) "Nonprofit Organization" means a university or other institution of higher education or an organization of the type described in Section 501(c)(3) of the Internal Revenue Code of 1954 (26 U.S.C. 501 (c)) and exempt from taxation under section 501(a) of the Internal Revenue Code (26 U.S.C. 501(a)) or any nonprofit scientific or educational organization qualified under a state nonprofit organization statute.

(b) Allocation of Principal Rights. The Grantee may retain the entire right, title, and interest throughout the world to each Subject Invention subject to the provisions of this clause and 35 U.S.C. 203. With respect to any Subject Invention in which the Grantee retains title, the Federal Government shall have a non-exclusive, non-transferable, irrevocable, paid-up license to practice or have practiced for or on behalf of the United States the Subject Invention throughout the world.

(c) Invention Disclosure, Election of Title and Filing of Patent Applications by Grantee.

(1) The Grantee will disclose each Subject Invention to NASA within two months after the inventor discloses it in writing to Grantee personnel responsible for patent matters. The disclosure to NASA shall be in the form of a written report and shall identify the grant under which the invention was made and the inventor(s). It shall be sufficiently complete in technical detail to convey a clear understanding, to the extent known at the time of the disclosure, of the nature, purpose, operation, and the physical, chemical, biological or electrical characteristics of the invention. The disclosure shall also identify any publication, on sale or public use of the invention and whether a manuscript describing the invention has been submitted for publication

and, if so, whether it has been accepted for publication at the time of disclosure. In addition, after disclosure to NASA, the Grantee will promptly notify NASA of the acceptance of any manuscript describing the invention for the publication or of any on sale or public use planned by the Grantee.

(2) The Grantee will elect in writing whether or not to retain title to any such invention by notifying NASA within twelve months of disclosure to the Grantee; provided that in any case where publication, on sale or public use has initiated the one year statutory period wherein valid patent protection can still be obtained in the United States, the period for election of title may be shortened by NASA to a date that is no more than 60 days prior to the end of the statutory period.

(3) The Grantee will file its initial patent application on an elected invention within two years after election or, if earlier, prior to the end of any statutory period wherein valid patent protection can be obtained in the United States after publication, on sale, or public use. The Grantee will file patent applications in additional countries within either ten months of the corresponding initial patent application or six months from the date permission is granted by the Commissioner of Patents and Trademarks to file foreign patent applications where such filing has been prohibited by a Secrecy Order.

(4) Requests for extension of the time for disclosure to NASA, election, and filing may, at the discretion of NASA be granted.

(d) Conditions When the Government May Obtain Title.

(1) The Grantee will convey to NASA, upon written request, title to any Subject Invention:

(i) If the Grantee fails to disclose or elect the Subject Invention within the times specified in (c) above, or elects not to retain title.

(ii) In those countries in which the Grantee fails to file patent applications within the time specified in (c) above; provided, however, that if the Grantee has filed a patent application in a country after the times specified in (c), above, but prior to its receipt of the written request of NASA, the Grantee shall continue to retain title in that country.

(iii) In any country in which the Grantee decides not to continue the prosecution of any application for, to pay the maintenance fees on, or defend in reexamination or opposition proceeding on, a patent on a Subject Invention.

(e) Minimum Rights to Contractor.

(1) The Grantee will retain a nonexclusive, royalty-free license throughout the world in each Subject Invention to which the Government obtains title except if the Grantee fails to disclose the Subject Invention within the times specified in (c), above. The Grantee's license extends to its domestic subsidiaries and affiliates, if any, within the corporate structure of which the Grantee is a party and includes the right to grant sublicenses of the same scope to the extent the Grantee was legally obligated to do so at the time the grant was awarded. The license is transferable only with the approval of NASA, except when transferred to the successor of

that part of the Grantee's business to which the invention pertains.

(2) The Grantee's domestic license may be revoked or modified by NASA to the extent necessary to achieve expeditious practical application of the Subject Invention pursuant to an application for an exclusive license submitted in accordance with applicable provisions in NASA's Patent Licensing Regulation, 14 C.F.R. 1245.2. This license will not be revoked in that field of use or the geographical areas in which the Grantee has achieved practical application and continues to make the benefits of the invention reasonably accessible to the public. The license in any foreign country may be revoked or modified at the discretion of NASA to the extent the Grantee, its licensees, or its domestic subsidiaries or affiliates have failed to achieve practical application in that foreign country.

(3) Before revocation or modification of the license, NASA will furnish the Grantee a written notice of its intention to revoke or modify the license, and the Grantee will be allowed thirty days (or such time as may be authorized by NASA for good cause shown by the Grantee) after the notice to show cause why the license should not be revoked or modified. The Grantee has the right to appeal, in accordance with NASA Patent Licensing Regulation, 14 C.F.R. 1245.2, any decision concerning the revocation or modification of its license.

(f) Grantee Action to Protect the Government's Interest.

(1) The Grantee agrees to execute or to have executed and promptly deliver to NASA all instruments necessary to--

(i) establish or confirm the rights the Government has throughout the world in those Subject Inventions to which the Grantee elects to retain title, and

(ii) convey title to NASA when requested under (d) above, and to enable the Government to obtain patent protection throughout the world in that Subject Invention.

(2) The Grantee agrees to require, by written agreement, its employees, other than clerical and non-technical employees, to disclose promptly in writing to personnel identified as responsible for the administration of patent matters and in a format suggested by the Grantee each Subject Invention made under grant in order that the Grantee can comply with the disclosure provisions of (c) above, and to execute all papers necessary to file patent applications on Subject Inventions and to establish the Government's rights in the Subject Inventions. This disclosure format should require, as a minimum, the information required by(c)(1) above. The Grantee shall instruct such employees through employee agreements or other suitable educational programs on the importance of reporting inventions in sufficient time to permit the filing of patent applications prior to U.S. or foreign statutory bars.

(3) The Grantee will notify NASA of any decision not to continue the prosecution of a patent application, pay maintenance fees, or defend in a reexamination or opposition proceeding on a patent, in any country, not less than thirty days before the expiration of the response period required by the relevant patent office.

(4) The Grantee agrees to include, within the specification of any United States patent application and any patent issuing thereon covering a Subject Invention, the

following statement, "This invention was made with Government support under (identify the grant) awarded by NASA. The Government has certain rights in this invention."

(5) The Grantee shall furnish the Grants Officer:

(i) interim reports every twelve (12) months from the date of this grant, listing all Subject Inventions required to be disclosed during that period, or stating that there were no such Subject Inventions;

(ii) a final report prior to close out of the grant listing (A) all Subject Inventions or stating that there were none and (B) all subcontracts containing a patent rights clause or stating that there were none;

(iii) notification of all subcontracts for experimental, developmental, research, design or engineering work and identification of the patent rights clause (either the "New Technology" clause as required by NASA Procurement Regulation 9.107-4 or the "Patent Rights (Small Business Firms and Nonprofit Organizations)" clause as required by NASA Procurement Regulation 9.108-4), and a copy of the subcontract upon request;

(iv) upon request, the filing date, serial number, and title; a copy of the patent application (including an English translation when available); and a patent number and issue date for any Subject Invention in any country in which the Grantee has applied for patents.

(g) Subcontracts.

(1) The Grantee will include this clause, suitably modified to identify the parties, in all subcontracts, regardless of tier, for experimental, developmental or research work to be performed by a small business firm or domestic nonprofit organization. The subcontractor will retain all rights provided for the Grantee in this clause, and the Grantee will not, as part of the consideration for awarding the subcontract, obtain rights in the subcontractor's Subject Inventions.

(2) The Grantee will include in all other subcontracts, regardless of tier, for experimental, developmental, research, design or engineering work the patent rights clause as required by NASA Procurement Regulation 9.107-4(b).

(h) Reporting on Utilization of Subject Inventions. The Grantee agrees to submit on request periodic reports no more frequently than annually on the utilization of a Subject Invention or on efforts at obtaining such utilization that are being made by the Grantee or its licensees or assignees. Such reports shall include information regarding the status of development, date of first commercial sale or use, gross royalties received by the Grantee, and such other data and information as NASA may reasonably specify. The Grantee also agrees to provide additional reports as may be requested by NASA in connection with any march-in proceeding undertaken by NASA in accordance with paragraph (j) of this clause. To the extent data or information supplied under this section is considered by the Grantee, its licensee or assignee to be privileged and confidential and is so marked, NASA agrees that, to the extent permitted by 35 U.S.C. 202(c)(5), it will not disclose such information to persons outside the Government.

(i) Preference for United States Industry. Notwithstanding any other provision of this clause, the Grantee agrees that

neither it nor any assignee will grant to any person the exclusive right to use or sell any Subject Invention in the United States unless such person agrees that any products embodying the Subject Invention or produced through the use of the Subject Invention will be manufactured substantially in the United States. However, in individual cases, the requirement for such an agreement may be waived by NASA upon a showing by the Grantee or its assignee that reasonable but unsuccessful efforts have been made to grant licenses on similar terms to potential licensees that would be likely to manufacture substantially in the United States or that under the circumstances domestic manufacture is not commercially feasible.

(j) March-in Rights. The Grantee agrees that with respect to any Subject Invention in which it has acquired title, NASA has the right in accordance with the procedures established by the NASA Procurement Regulation which are consistent with OMB Circular A-124 to require the Grantee, an assignee or exclusive licensee of a Subject Invention to grant a non-exclusive, partially exclusive, or exclusive license in any field of use to a responsible applicant or applicants, upon terms that are reasonable under the circumstances, and if the Grantee, assignee, or exclusive licensee refuses such a request, NASA has the right to grant such a license itself if NASA determines that:

(1) Such action is necessary because the Grantee or assignee has not taken, or is not expected to take within a reasonable time, effective steps to achieve practical application of the Subject Invention in such field of use;

(2) Such action is necessary to alleviate health or safety needs which are not reasonably satisfied by the Grantee, assignee, or their licensees;

(3) Such action is necessary to meet requirements for public use specified by Federal regulations and such requirements are not reasonably satisfied by the Grantee, assignee, or licensees; or

(4) Such action is necessary because the agreement required by paragraph (i) of this clause has not been obtained or waived or because a licensee of the exclusive right to use or sell any Subject Invention in the United States is in breach of such agreement.

(k) Special Provisions for Grants with Nonprofit Organizations. If the Grantee is a nonprofit organization, it agrees that:

(1) Rights to a Subject Invention in the United States may not be assigned without the approval of NASA, except where such assignment is made to an organization which has as one of its primary functions the management of inventions and which is not, itself, engaged in or does not hold a substantial interest in other organizations engaged in the manufacture or sale of products or the use of processes that might utilize the invention or be in competition with embodiments of the invention provided that such assignee will be subject to the same provisions as the Grantee;

(2) The Grantee may not grant exclusive licenses under United States patents or patent applications in Subject Inventions to persons other than small business firms for a period in excess of the earlier of--

(i) five years from first commercial sale or use of the invention; or

(ii) eight years from the date of the exclusive license excepting that time before regulatory agencies necessary to obtain premarket clearance, unless on a case-by-case basis, NASA approves a longer exclusive license. If exclusive field of use licenses are granted, commercial sale or use in one field of use will not be deemed commercial sale or use as to other fields of use, and a first commercial sale or use with respect to a product of the invention will not be deemed to end the exclusive period to different subsequent products covered by the invention.

(3) The Grantee will share any royalties collected on a Subject Invention with the inventor; and

(4) The balance of any royalties or income earned by the Grantee with respect to Subject Inventions, after payment of expenses (including payments to inventors) incidental to the administration of Subject Inventions, will be utilized for the support of scientific research or education.

(l) Communications. NASA shall designate a New Technology Representative and a Patent Representative to be the central point of contact for administering this clause in accordance with the procedures of NASA Procurement Regulation 9.109-1. The Grantee shall include such designation in all subcontracts containing either this clause or the clause required by NASA Procurement Regulation 9.107-4(b). The Grantee will forward a copy of all disclosures of Subject Inventions, election of rights, interim and final reports, and other reports and information required by this clause to the Installation Patent Counsel in addition to furnishing such information to the Grants Officer.